

Pleural Space Complications from Tuberculous Empyema: A Case Report and Short Literature Review

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ABSTRACT

Tuberculous empyema (TE) is an uncommon form of pleural tuberculous (TB). Although the incidence of TE has significantly decreased, it still threatens public health. Patients with TE experience a protracted illness and significant morbidity and mortality risk. Male sex is a significant risk factor for TE. Herein, we report an adult case of TE admitted to a tertiary care hospital of Iran with clinical characteristics, treatment modalities, and outcomes of this disease. The duration of illness and duration of chest tube drainage equaled 7 months and 48 days, respectively. Our patient required surgery despite the administration of antituberculosis drugs and chest tube drainage. Due to the presence of parenchymal lesions, bronchopleural fistula, and failure of lung re-expansion after chest tube insertion, the patient required decortication with the closure of the bronchopleural fistula and additional thoracoplasty. In the case presentation, we emphasize difficulties encountered in the treatment of such patients.

Keywords: Bronchopleural fistula, Empyema, Tuberculous empyema

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Introduction

Tuberculous pleural effusion (TB pleurisy) is the 2nd most common form of extrapulmonary tuberculosis (EPTB) and the most prevalent cause of pleural effusion in endemic tuberculosis areas (1). According to the World Health Organization (WHO), 10 million incident cases of tuberculosis (TB) were estimated worldwide in 2017, 14% of which were EPTB. In 2015, the incidence rate of tuberculosis was 16 cases per 100,000 people in Iran (2). Tuberculous empyema (TE) was a rare complication of pulmonary tuberculosis in the postchemotherapy era, but it still threatens public health (3, 4). Clinical outcomes of TE are generally believed to be worse compared to those of nontuberculous empyema because of protracted illness, presence of concomitant fibrocavitary lung lesions, high bacillary load, development of bronchopleural fistulae (BPF), and requirement of complicated thoracic surgeries in the face of compromised lung function (5). A high risk of poor clinical outcome has been observed in male TE patients, while the concomitant pulmonary TB is protective (4).

The present case study reports the clinical characteristics, outcome, and difficulties in the

treatment of a patient with TE. An adult case of nonsurgical thoracic empyema was admitted to the infectious diseases ward of a tertiary care teaching hospital in northern Iran over a period of seven months (Sep 2018–Apr 2019).

Case Report

The 25-year-old man was admitted with four days of fever, one month of progressive shortness of breath, and four months of weakness, lethargy, anorexia, and a weight loss of 25 kg. He also had coughs, hemoptysis, nausea and vomiting, palpitations, and pleural chest pain. The patient had a two-year history of using heroin and was taking methadone as part of an ongoing opioid dependency treatment and a history of contact with a TB patient in prison. He was married, and his relatives had no recent infectious diseases. He belonged to a low socioeconomic status and lived in a periurban area. The patient had a complete vaccination history of preventable diseases based on immunization programs in the Islamic Republic of Iran. Our patient did not report any defined comorbidities such as diabetes mellitus, human